Claims

What is claimed is:

1. A method of increasing an immune response to a target in an individual comprising, administering to the individual an effective amount of a composition comprising one or more immunity linkers, wherein the linker molecules comprise at least one first binding site and at least one second binding site, wherein the second binding site binds to the target, wherein the individual has a pre-existing immune response to the first binding site, or an immunological equivalent thereof, and wherein the immune response is selected from a cellular immune response and a humoral immune response.

2. The method of Claim 1, wherein the pre-existing immune response is induced by administering to the individual a universal immunogen comprising the first binding site.

3. The method of Claim 1, wherein the pre-existing immune response is induced by administering to the individual a universal immunogen that is an immunological equivalent of the first binding site.

4. The method of Claim 1, wherein the pre-existing immune response exists in the individual without administration of a universal immunogen.

5. The method of Claim 1, wherein the second binding site comprises an antibody or a fragment thereof.

6. The method of Claim 1, wherein the second binding site comprises a Fab antibody fragment.

7. The method of Claim 1, wherein the target is a pathogen.

8. The method of Claim 1, wherein the immunity linker comprises a first bacteriophage.

9. The method of Claim 8, wherein the first binding site comprises a first polypeptide expressed by the bacteriophage and wherein the second binding site comprises a second polypeptide expressed by the bacteriophage.

10. The method of Claim 9, wherein the pre-existing immune response is induced by administering to the individual a universal immunogen comprising a second bacteriophage that expresses the first polypeptide.

11. The method of Claim 10, wherein the first bacteriophage and/or the second bacteriophage are each contained within one or more bacteria.

12. The method of Claim 1, wherein the individual is a human and the first binding site comprises an alpha-galactosyl epitope.

13. The method of Claim 1, wherein the individual is unable to mount an effective immune response to the target prior to administration of the immunity linker.

14. The method of Claim 1, wherein the immune response is a cellular immune response.

15. The method of Claim 1, wherein the immune response is a humoral immune response.

16. The method of Claim 1, wherein the composition comprises a population of different immunity linkers wherein the first binding sites differ in

a) their specificity for different epitopes on the immune response component, or

b) their affinity for the same epitopes on the immune response component.

17. The method of Claim 16, wherein the immune response component comprises an antibody.

18. The method of Claim 1, wherein the composition comprises a population of different immunity linkers comprising second binding sites that differ in

a) their specificity for different epitopes on the target, or

b) their affinity for the same epitope on the target.

19. The method of Claim 18, wherein the second binding sites each comprise an antibody or a fragment thereof.

20. A method of increasing a humoral immune response to a target in an individual comprising, administering to the individual an effective amount of a composition comprising one or more immunity linkers, wherein the linkers comprise at least one first binding site and at least one second binding site, wherein the first binding site binds to a humoral immune response component, or an immunological equivalent thereof, wherein the second binding site binds to the target, and wherein the target normally elicits a cellular immune response in that or another individual.